

Attorney Docket No.: SCHO0333

U.S. Serial No.: 09/787,065

REMARKS

Claims 1-6 are objected to for various informalities. These claims are amended herein to correct these informalities.

Claims 1, 3-5, 7-10 and 16 are rejected under 35 U.S.C. § 102 as being anticipated by Effing. Applicant respectfully traverses this rejections.

An essential difference between the concept of Effing and the concept of the invention as claimed consists in the fact that, according to Effing the individual characterizing data in the memory (53) is always the same, irrespective of the random number stored in the card (51). In the invention as claimed, however, the operational data of the circuit also depends on the input data of the circuit. Effing does not disclose a device for determining the operational data of the electronic circuit, said data being influenced by an operation of the electronic circuit, when the electronic circuit executes the algorithm. Moreover, in Effing the individual stored data is not dependent on the input data, that is the random number, which is transmitted from block 2 in Figure 11 to block RN. Consequently, Effing also fails to disclose a device for determining the operational data of the electronic circuit (the operational data of the device (60) in Figure 11 is not determined; the memory (52) is not an element that generates output data from the card depending on input data in the card). Furthermore, Effing does not disclose the fact that the algorithm, which is executed by the electronic circuit, uses the determined operational data of the electronic circuit, since such operational data of the electronic circuit is not even determined.

Proceeding from Effing, the claimed invention addresses the problem of developing a concept for the improved protection of electronic circuits and thus for securely authenticating such electronic circuits and authorizing an owner of such electronic circuits.

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Unlike in Effing, the invention as claimed does not use the individual characterizing data of just any electronic circuit, but rather the operational data of the electronic circuit which generates output data depending on the input data. The concept as per the invention as claimed dispenses with the storing of characterizing data in a central processor.

The teaching of Effing differs from the solution as per the claimed invention in that in Effing the individual characterizing data in the memory is always the same and can therefore be stored at the beginning, whereas according to the invention as claimed, the operational data depends on the input data and therefore a single storage of the operational data would not make any sense.

Concerning alleged anticipation of specific features recited by Claim 1, regarding the electronic circuit, the Examiner refers to the card as illustrated in Fig. 1 which has an encryption unit 60 which is mentioned in column 11, lines 46 or 48. Regarding the "operational data and the unit for detecting the operational data, the Examiner refers to the "programming time" as, for example, mentioned in column 5, line 26. However, it is not correct to say that a programming time of an E²PROM is an operational data of the electronic circuit which is influenced by an operation of the electronic circuit, when the electronic circuit executes the algorithm. Furthermore, the programming time of an E²PROM does not depend on the input data.

In view of that, the Examiner's reasoning under section 2 is not correct, since the Examiner simply states that the programming time of a memory cell depends on the input data and is influenced by an operation of the electronic circuit, when the electronic circuit executes the algorithm. In this context, the Examiner also refers to column 8, lines 13 to 16. Here, it is simply outlined that an effective programming time varies from cell to cell due to unavoidable manufacturing tolerances and inhomogeneities as specifically stated in column 8, lines 11 and 12. However, such inhomogeneities or manufacturing tolerances are always the same irrespective of any input data and also irrespective of any operational data which the electronic circuit has, when the electronic

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circuit executes an algorithm. Thus, the Examiner's reference to column 8, lines 13 to 16 is not correct.

In the other passage in column 11, lines 11 to 34, which is cited by the Examiner, only "in individual property of an integrated circuit, that identifies each circuit in an unalterable and unambiguous fashion." as mentioned. However, this passage also does not say that operational data are detected which are influenced by an operation of the electronic circuit when the electronic circuit executes the algorithm, where the operational data depend on the input data. Again, column 11, lines 11 to 34 only mentions data which are not influenced by an operation of the electronic circuit when the electronic circuit executes the algorithm, and which do not depend on the input data.

In column 12, lines 6 to 10, only "individual characteristics of the memory 53" is mentioned. However, again these individual characteristics are not operational data which are influenced by the operation of the electronic circuit and which depend on the input data. Again, this individual characteristics are not influenced by an operation of the electronic circuit and do not depend on the input data.

In view of that, the Examiner is not correct when saying that claim 1 is anticipated, since the Examiner did not fully evaluate the limitations in the third paragraph of claim 1.

Applicant respectfully notes that the PCT counterpart has received a positive International Preliminary Examination Report, the main reference of which was the European equivalent of Effing.

Claims 2, 11-13 and 15 are rejected under 35 U.S.C. § 103(a) as being obvious in light of a hypothetical combination of Effing and Kocher. Claims 2, 11-13 and 15 all depend upon claim 1 and should be allowable for at least the same reasons.

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Applicant respectfully posits that the pending claims are now in condition for allowance. Should the Examiner deem it helpful, he is encouraged to contact Applicant's attorney at (650) 474-8400.

Respectfully submitted,



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